

IN THE CLAIMS:

**1. – 16. (Withdrawn).**

**17. (Currently Amended)** A sound recording arrangement comprising:  
a plurality of at least three microphones that point at directions substantially on a  
horizontal plane, with at least one pair of said microphones providing a sound time-of-  
arrival difference of approximately 0.9msec, one additional microphone that points at a  
direction that is substantially perpendicular and upward from said horizontal plane, and  
another additional microphone that points at a direction that is substantially perpendicular  
and downward from said horizontal plane;

means for communicating signals of said microphones to other equipment  
a processor for combining selected ones of said signals of said plurality of at least  
three microphones

~~The arrangement of claim 16~~ where said processor develops a modified signal  
$$s'_h = s_h + \frac{1}{\sqrt{N}}(s_u + s_d),$$
 for each signal  $s_h$  of a microphone from said plurality of at least  
three microphones that points at a direction that lies substantially on said horizontal  
plane, where  $s_u$  is the signal of said microphone that points substantially upward relative  
to said horizontal place, and said  $s_d$  is the signal of said microphone that points  
substantially downward relative to said horizontal place.

**18. (Withdrawn).**

**19. (Currently Amended)** A sound recording arrangement comprising:  
a plurality of at least three microphones, with at least one pair of said  
microphones providing a sound time-of-arrival difference of approximately 0.9msec;  
means for communicating signals of said microphones to other equipment;  
where said plurality of at least three microphones comprises an odd number of  
microphones that point to directions that lie substantially on a horizontal plane; and

~~The arrangement of claim 18~~ where said plurality of at least three microphones  
comprises five microphones that point to directions  $0^\circ$ ,  $\pm 72^\circ$ , and  $\pm 144^\circ$ .

a plurality of five microphones that lie substantially on a horizontal plane and point to directions  $0^\circ$ ,  $\pm 72^\circ$ , and  $\pm 144^\circ$ , with at least one pair of said microphones providing a sound time-of-arrival difference of approximately 0.9msec; and means for communicating signals of said microphones to other equipment.

**20. (Currently Amended)** A sound recording arrangement comprising: a plurality of at least three microphones, with at least one pair of said microphones providing a sound time-of-arrival difference of approximately 0.9msec; means for communicating signals of said microphones to other equipment; where said plurality of at least three microphones comprises an odd number of microphones that point to directions that lie substantially on a horizontal plane; and  
~~The arrangement of claim 18~~ where said plurality of at least three microphones comprises seven microphones that nominally point to directions  $0^\circ$ ,  $\pm 45^\circ$ ,  $\pm 90^\circ$ , and  $\pm 150^\circ$ .

**21. (Original)** An arrangement to reproduce sound from a plurality of channels, comprising:

an N plurality of input ports for receiving signals picked up by an N plurality of microphones, where one of said microphones points at a direction that is substantially perpendicular to and upward from a horizontal plane and picks up signal  $s_u$ , another of said microphones points at a direction that is substantially perpendicular to and downward from said horizontal plane and picks up signal  $s_d$ , and remaining N-2 of said microphones point at directions that substantially lie in said horizontal plane and pick up signals  $s_h^i$ ; and

a processor for developing signals  $s_h^i$ ,  $i=1, 2, \dots, N-2$ , such that  $s_h^i = s_h^i + \frac{1}{\sqrt{N}}(s_u + s_d)$ .